ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
Division of Air Pollution Control--Field Operations Section

MEMORANDUM

DATE: December 11, 1990

Date of Inspection: September 12, 1990

TO: Miles Zamco

Last Insp. Date: July 11, 1990

FROM: Jeff Benbenek

Region/Distirct: 302

SUBJECT: Facility: Granite City Division/National Steel Corp. I.D. #: 119 813 AAI

Address: 20th and State Streets, Granite City, IL 62040

Contact/Title: Carl Cannon/EQC Manager Phone: 618/451-3013

Facility Description

The subject facility is an integrated iron and steel mill. Its primary product is hot or cold rolled steel coils. For production of coke, two 45-oven batteries (A & B) are utilized, which are each rated at 1160 tons (dry basis) of coal per day for coking. Organics driven from the coal during the coking process are collected and separated in a conventional by-products plant. Molten iron is produced by two blast furnaces. The A furnace has a maximum production rate of 2400 tons/day, while the B furnace maximum production rate is 2800 tons/day. Steel is produced by two basic oxygen furnaces, nos. 1 & 2, with a combined maximum production rate of 6900 net tons per day. Molten steel produced at the basic oxygen furnace shop is either sent to the continuous caster to be directly cast into slabs or is poured into molds for production of ingots. The ingots, subsequently have to be reheated at the soaking pits before they are rolled into slabs. According to the type of sheet steel desired, the slabs are finished in the various operations in the steel milling area. There is a sinter plant on site at the facility, however, it has not been operated for several years. Steam for process and heating requirements is provided by 12 boilers in the blast furnace area (two rated at 225 mmBtu/hr. and 10 rated at 60 mmBtu/hr.) and 4 boilers in the steel mill area rated at 150 mmBtu/hr. Fuels utilized at the facility for the coke ovens, reheat furnaces, soaking pits, boilers, and various small fuel combustion sources are blast furnace gas, coke oven gas, natural gas, and #6 fuel oil. The combination and type of fuels utilized at each depend on location and availability.

Findings

The time of the plant visit was from 1000 hours to 1400 hours. The purpose of the visit was to inspect the coke oven batteries A & B. I was accompanied by Jim Riskovsky at the EQC Dept. during the visit.

Attached to this memo are my inspection forms for oven charging, standpipes/lids, and doors. For A, the total number of seconds for charging was 34, and for B, it was 18. Five consecutive charges were read on each battery. The allowable for each is 125 seconds and 55 seconds, respectively. Note that there was a problem with larry car #2 that forced them to use the spare #1. However, since it was a screw problem with the charging mechanism, it did not effect charging emissions. Steam aspiration was utilized on all charges.

Only one standpipe (off take) was observed leaking and that was on A. This is well below the allowable of 10% per the Regulations. Two oven lids were observed leaking on A. The allowable is 5%, which corresponds to 8 lids. There were no oven lids leaking on B.

Concerning coke oven doors, four were observed with leaks on A and nine were leaking on B. The allowable for A, per 35 IAC 212.443(d)(1), is nine. For B, the LAER limitation is 5%. The percentage for the observed number of leaks is calculated as follows:

$$\left[\frac{(\#\text{ of doors with VE on operating ovens in battery})}{(\#\text{ of doors on operating ovens}) - (\#\text{ of doors obstructed})}\right] \times 100 = \text{actual \%}$$

$$\frac{9}{[84 - 0]} \times 100 = 10.7\%$$

Note that GCS normal operation of batteries leaves three ovens open at any one time, either empty awaiting charge or awaiting pushing. The total number of doors on each battery is 90. Each oven has two doors. The subject allowable is incorporated into special condition #5 of operating permit #82060043. Therefore, the above observation indicates a violation of Section 9(b) of the Act.

Visible emissions from coal handling were nil. The coal breaker baghouse stack had no visible emissions from its exhaust stack.

The opacity monitor on B combustion stack had a reading of 6.7% and had been consistent for several hours. The combustion stack for A had white visible emissions, which were similar in opacity.

Collector main pressures for both batteries were consistent. Mr. Riskovsky submitted the charts from the control rooms for these parameters on 9/18/90. These are attached.

The operating permits for both batteries are valid.

It is recommended that the above violation be referred to the Department of Legal Counsel for inclusion in the current action at the Attorney General's Office.

JJB:pbo/0798A
Attachment

cc: DAPC Collinsville
cc: Theresa Pella